

IN THE CLAIMS:

Please amend claims 1, 8 and 9, and add new claims 12-16.

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✓ 1. (Currently Amended) A ferroelectric memory device comprising;

a ferroelectric capacitor including a top electrode, a bottom electrode and a ferroelectric film interposed between the top and bottom electrodes, the top electrode having a rectangular planar pattern;

a memory cell transistor including first and second doped layers and a gate, the memory cell transistor controlling a voltage supplied to the top electrode of the ferroelectric capacitor;

a first interlevel dielectric film formed over the memory cell transistor and the ferroelectric capacitor;

a first interconnection layer formed on the first interlevel dielectric film; and

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a memory cell composed of the ferroelectric capacitor and the memory cell transistor, wherein, in a planar layout of the ferroelectric memory device, the first interconnection layer partially overlaps with the top ~~electrode~~ and bottom electrodes of the ferroelectric capacitor, and does not cover at least one side of the rectangular top electrode and the bottom electrode, and the width of a bit line formed above the top electrode is smaller than the distance between the top electrode and another top electrode adjacent to the top electrode;

wherein the memory cell comprises a memory cell array arranged in a matrix,

wherein the first interconnection layer extends ~~only in one direction~~ in a same direction orthogonal to the extending direction of the bottom electrode, not extending in an opposite direction, with respect to the top and bottom electrodes, and

wherein a plurality of the top electrodes is arranged only in a row with respect to the direction of the length of the bottom electrode.

✓ 2. (Original) The device of Claim 1, wherein the first interconnection layer includes:

a storage line connected to the top electrode of the ferroelectric capacitor and to the first doped layer of the memory cell transistor, the storage line having a linear planar pattern; and

a bit line connected to the second doped layer of the memory cell transistor, and wherein the storage line intersects only one side of the top electrode in the planar layout.

3. (Original) The device of Claim 2, wherein the storage line includes:  
a first region connected to the top electrode of the ferroelectric capacitor;  
a second region connected to the first doped layer of the memory cell transistor; and  
a third region being interposed between the first and second regions and intersecting the side of the top electrode in the planar layout, and  
wherein the line width of the third region is smaller than that of the first and second regions.

4. (Original) The device of Claim 2, wherein the bit line does not overlap with the top electrode in the planar layout.

5. (Original) The device of Claim 4, wherein the storage line includes:  
a first region connected to the top electrode of the ferroelectric capacitor;  
a second region connected to the first doped layer of the memory cell transistor; and  
a third region being interposed between the first and second regions and intersecting the side of the top electrode in the planar layout, and  
wherein the line width of the third region is smaller than that of the first and second regions.

6. (Original) The device of Claim 1, wherein the first interconnection layer includes:  
a storage line connected to the top electrode of the ferroelectric capacitor and to the first doped layer of the memory cell transistor, the storage line having a linear planar pattern; and  
a bit line connected to the second doped layer of the memory cell transistor, and wherein the bit line does not overlap with the top electrode in the planar layout.

✓ 7. (Original) The device of Claim 1, wherein the first interconnection layer is made of a material containing at least one of aluminum and copper.

✓ 8. (Currently Amended) The device of Claim 1, further comprising:  
an upper interlevel dielectric film formed to cover the first interconnection layer; and  
~~a second~~ an upper interconnection layer formed on the upper interlevel dielectric film,

wherein the second interconnection layer totally covers the top electrode of the ferroelectric capacitor in the planar layout.

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9. (Currently Amended) The device of Claim 1, further comprising:  
an upper interlevel dielectric film formed to cover the first interconnection layer; and  
~~a second~~ an upper interconnection layer formed on the upper interlevel dielectric film,

wherein the second interconnection layer totally covers the bottom electrode of the ferroelectric capacitor in the planar layout.

10. (Original) The device of Claim 9, wherein the second interconnection layer is made of a material containing at least one of aluminum and copper.

✓ 11. (Previously Added) The device of claim 8, wherein the second interconnection layer is made of a material containing at least one of aluminum and copper.

Please add the following new claims:

12. (New) A ferroelectric memory device comprising;  
a ferroelectric capacitor including a top electrode, a bottom electrode and a ferroelectric film interposed between the top and bottom electrodes, the top electrode having a rectangular planar pattern;

a memory cell transistor including first and second doped layers and a gate, the memory cell transistor controlling a voltage supplied to the top electrode of the ferroelectric capacitor;

a first interlevel dielectric film formed over the memory cell transistor and the ferroelectric capacitor;

a first interconnection layer formed on the first interlevel dielectric film; and

a memory cell composed of the ferroelectric capacitor and the memory cell transistor,

wherein, in a planar layout of the ferroelectric memory device, the first interconnection layer partially overlaps with the top electrode of the ferroelectric capacitor, and does not cover at least one side of the rectangular top electrode, and the width of a bit line formed above the top electrode is smaller than the distance between the top electrode and another top electrode adjacent to the top electrode;

wherein the memory cell comprises a memory cell array arranged in a matrix,

wherein the first interconnection layer extends only in one direction with respect to the top and bottom electrodes, and

wherein a plurality of the top electrodes is arranged only in a row with respect to the direction of the length of the bottom electrode,

wherein the first interconnection layer includes:

a storage line connected to the top electrode of the ferroelectric capacitor and to the first doped layer of the memory cell transistor, the storage line having a linear planar pattern; and

a bit line connected to the second doped layer of the memory cell transistor, and

wherein the storage line intersects only one side of the top electrode in the planar layout, and

wherein the storage line includes:

a first region connected to the top electrode of the ferroelectric capacitor;

a second region connected to the first doped layer of the memory cell transistor; and

a third region being interposed between the first and second regions and intersecting the side of the top electrode in the planar layout, and

wherein the line width of the third region is smaller than that of the first and second regions.

13. (New) The device of Claim 12, wherein the bit line does not overlap with the top electrode in the planar layout.

14. (New) The device of Claim 13, wherein the storage line includes:  
a first region connected to the top electrode of the ferroelectric capacitor;  
a second region connected to the first doped layer of the memory cell transistor; and  
a third region being interposed between the first and second regions and intersecting the side of the top electrode in the planar layout, and  
wherein the line width of the third region is smaller than that of the first and second regions.

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15. (New) A ferroelectric memory device comprising.  
a ferroelectric capacitor including a top electrode, a bottom electrode and a ferroelectric film interposed between the top and bottom electrodes, the top electrode having a rectangular planar pattern;  
a first interlevel dielectric films over the ferroelectric capacitor; and  
a first interconnection layer formed on the first interlevel dielectric film,  
wherein, in a planar layout of the ferroelectric memory device, the first interconnection layer partially overlaps with the top and bottom electrodes of the ferroelectric capacitor, and does not cover at least one side of the rectangular top electrode and the bottom electrode, and the width of a bit line formed above the top electrode is smaller than the distance between the top electrode and another top electrode adjacent to the top electrode;  
wherein the first interconnection layer extends in a same direction orthogonal to the extending direction of the bottom electrode, not extending in an opposite direction, with respect to the top and bottom electrodes, and  
wherein a plurality of the top electrodes is arranged only in a row with respect to the direction to the length of the bottom electrode.

16. (New) The device of Claim 15, wherein the first interconnection layer is made of a material containing at least one of aluminum and copper.